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Humanities, Social Sciences and Law > Encyclopedia of Mathematics Education > Theories of Learning Mathematics

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Theories of Learning Mathematics

Key words

Complexity; Learning Theories; Models and Modeling; Models versus Theories; Theories of mathematics education.

Definition

According to Karl Popper, widely regarded as one of the greatest philosophers of science in the 20th century, *falsifiability* is the primary characteristic that distinguishes scientific theories from ideologies – or dogma. For example, for people who argue that schools should treat *creationism* as a scientific theory, comparable to modern theories of evolution, advocates of creationism would need to become engaged in the generation of falsifiable hypothesis, and would need to abandon the practice of discouraging questioning and inquiry. Ironically, scientific theories themselves are accepted or rejected based on a principle that might be called *survival of the fittest*. So, for healthy theories on development to occur, four Darwinian functions should function: (a) variation – avoid *orthodoxy* and encourage *divergent* ... [read more]

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